



## Speakers



Dr Raphael Bar  
BR Consulting, Israel



Dr Gerald Kindermann  
AGIDENS AG, Switzerland



Philip Lienbacher  
Takeda, Austria

# EU GMP-/FDA-compliant Sampling

19 – 21 May 2021 | Berlin, Germany



*EU GMP-/FDA-compliant Sampling Plans with Efficient Procedures and  
Reduced Sampling*

## Highlights

- Regulatory and compendial requirements around sampling
- Acquaintance with basic sampling distributions
- $\sqrt{N}$  rule: its uses and misuses
- Acceptance Sampling Plans in ISO-2859-1/ANSI Z1.4
- WHO requirements for sampling
- Classification, Charting and Trending of nonconformities
- Understanding the risks of producer and consumer associated with the sampling plans
- Sampling and inspection of packaging materials
- How to effectively reduce the amount of samples to be tested?
- Sampling for visual inspection of particles in drugs
- Sampling of Powders (APIs and Excipients) and tools for sampling in a pharmaceutical plant
- Good quality practice around sampling plans
- Reference and Retention Samples

## Objective

The aim of this course is to discuss the process of the statistical sampling of

- finished drug products
- packaging materials (primary and secondary)
- medical devices
- starting materials (APIs and excipients)

and to define the prerequisites for implementing a system for reduced sampling and reduced testing for these products.

This course is also intended to give a practical training on the use of the most common sampling standards: ISO 2859-1:1999 and ANSI/ASQ Z1.4. Starting with regulatory and compendial requirements around sampling, this course will also address

- charting and trending nonconformities and nonconformant items
- good quality practice around sampling plans
- Reference and Retention Samples

The course participants will learn how to read and to use the standards for selecting a sampling plan with an understanding of the associated producer and consumer risks.

## Background

Sampling of materials is one of the most important processes in pharmaceutical companies. Today there are more and more detailed questions during regulatory GMP Inspections, both in Europe and in the US (FDA) about the amount of samples to be taken.

Sampling by Attributes is a process of inspecting a representative sample of identical product units of product for presence or absence of nonconforming units or nonconformities before accepting or rejecting the whole lot of product. Regulatory agencies require a sampling plan that utilizes basic elements of statistical analysis or provide a scientific rationale for taking a representative sample according to the lot size. In the light of these regulatory requirements, one may wonder whether the Square Root of N is a statistically valid sampling plan.

According to the revised Chapter 6 of EU GMP Guide, the sampling plan used should be appropriately justified and based on a risk management approach.

Representative samples should be taken and recorded in accordance with approved written procedures.

FDA requires as well in the Code of Federal Regulations (21 CFR Part 211.84), that sampling should be done upon statistical criteria.

In the past the Military Standard 105 D was commonly used in the pharmaceutical industry, but this standard has been withdrawn and is now obsolete. Today, either the ISO Standard 2859:1-1999 or the ANSI Z1.4 are applied. These Standards are widely employed in various types of industries which are required by Regulatory Authorities to follow a statistically sound sampling plan.

## Target Audience

This GMP Education Course is directed at all those employees from quality control units and production units in the pharmaceutical industry who are competent or responsible for sampling, testing and release of starting materials (APIs and excipients), packaging materials (primary and secondary) as well as finished pharmaceutical products. This course is also of interest to personnel from quality assurance and to those employees from API, excipient or packaging material suppliers who want to inform themselves about the requirements of the pharmaceutical industry on the testing of these materials.

The course does not require prior knowledge in sampling and statistics. It teaches the participant how to use the multiple tables and plots of the Standard for designing a sampling plan.

Relevant tables from the

**ISO Standard ISO 2859-1:1999**  
**Sampling procedures for inspection by attributes**  
**Part 1: Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection**

will be made available to the course participants for the purpose of practicing.

## Programme

### Regulatory and compendial requirements around sampling

---

- History of sample taking and sampling
- Sampling plans
- Regulations: US GMPs, EU GMPs, WHO, PIC/S
- Articles sampled in pharma and bio-tech (discrete units vs. granular or liquid materials)

### Acquaintance with basic sampling distributions

---

- What is Acceptance Sampling:
- Sampling Attributes vs. sampling by variables
- Nonconforming items and nonconformities
- Hypergeometric distribution
- Binomial distribution
- Poisson distribution
- Normal distribution
- Concept of probability of acceptance

### $\sqrt{N}$ rule: its uses and misuses

---

- Origin of the rule
- Uses and misuses
- How confident is it?

### Acceptance Sampling Plans in ISO-2859-1/ANSI Z1.4

---

- Structure of the Standards
- Single sampling Plan
- Double sampling Plan

- Multiple sampling Plan
- Switching rules between Normal-Tightened-Reduced inspections
- Producer and consumer risks
- Acceptance sampling of an isolated lot using ISO-2859-2



## Workshop I

### Step-by-step use of ISO-2859-1/ANSI Z1.4

- Procedure for a Single sampling Plan (Exercises)
- Procedure for a Double sampling Plan (Exercises)
- Procedure for a Multiple sampling Plan (Exercises)
- Exercise in using tables of sampling

## Sampling according to the WHO Guide

- Sampling of starting materials
- Full testing vs. testing for identity
- Qualified supplier vs. unreliable supplier
- n, p and r plans
- Criticism of the sampling plans

## Classification of nonconformities and allocating AQL to classes

- Classification schemes
- Classification of nonconforming items (Class A, B, C...)
- Classification of nonconformities (Class A, B, C...)
- Examples of nonconformities in pharmaceutical preparations (Optional)
- Allocating AQL to various classes

## Charting and trending nonconformities and nonconforming items

- Run chart and control chart
- Charting the number of defectives
- Charting the number of nonconformities
- Detecting a trend in your inspection quality
- Determining your process average
- Does your inspection data confirm your AQL?
- Deriving statistically your allowed percent defectives

## Risks in sampling with ISO-2859-1/ANSI Z1.4

- Probability of acceptance
- Producer risk
- Consumer risk
- Operating Curve
- Misconceptions of sampling
- Determining product and consumer risks in a sampling plan

## Practicing with Producer and Consumer risks in sampling with ISO-2859-1

## Sampling and inspection of packaging materials

- Regulations and guidance for packaging and labeling control
- Primary packaging: containers and closures:
  - What is inspected?
  - AQL for sampling
  - Defects in PPMs
- Secondary packaging: labels, leaflets and folded boxes:
  - What is inspected?
  - AQL for sampling
  - Sampling in printing house
  - Sampling in manufacturer's site
  - Defects in labels

## How to effectively reduce the amount of samples to be tested?

- Reduced Testing concepts
- Internal testing vs. external testing
- Using the suppliers CoA instead of in-house testing
- Use of devices to reduce amount of samples (Rapid ID testing, Rapid Mibi Testing)



## Workshop II

### Implementing Reduced Testing

- Exercise implementation of reduced testing concepts on real life examples

## Sampling for visual inspection of particles in parenteral drugs

- Regulations for sampling for visual inspection
- Types of sampling
- AQL for sampling
- Policy of sampling and inspection

## Sampling of Powders (APIs and Excipients)

- Regulatory requirements
- Risk assessment for sampling
- Sampling plans / sampling schemes
- Training for sampling
- Retention / Reference samples
- Starting material Identity testing
- Sampling for the purpose of Assay
- Sampling of raw materials (WHO guide, n/r/p-sampling plans)

## Tools for Sampling in a pharmaceutical plant

- Techniques of drawing samples
- Prerequisites / Requirements for correct sampling
- Sampling devices and containers

## Good quality practice around sampling plans

---

- How to document the sampling system within the company?
- How to incorporate it into specifications (FDP/raw materials)?
- How to incorporate it into the LIMS system?
- What you should discuss with the supplier! (tailgate samples, pre-delivery shipment samples, statements of homogeneity)

## Reference & Retention Samples

---

- What samples need to be taken
- Regulations on reference, retention & reserve samples
- Quantities to be taken
- Retention periods

## Speakers



Dr Raphael Bar  
BR Consulting, Israel

Dr Bar headed the Analytical R&D Laboratories at Teva Pharmaceuticals and the analytical QC laboratory at Pharmos. He served in the Scientific Advisory Board of global PDA (USA) and is presently a board member of Israel PDA Chapter as well as a member of the organizing committee of the Israel Society for Analytical Chemistry. For the last ten years, Raphael Bar has been a pharmaceutical consultant for the Pharma and bio-Pharma industries.



Dr Gerald Kindermann  
AGIDENS AG, Switzerland

Dr Kindermann was Product Quality Manager at the Global Quality Group at Roche working on quality systems. Before that he was Group Leader Quality Control and Quality Manager for the Supply Center. Since August 2019 he works as a Senior Pharma Consultant at AGIDENS AG in Switzerland.



Philip Lienbacher  
Takeda, Austria

Mr Lienbacher is Manager Global Material Lifecycle Management Systems and is responsible for a team of process experts and project managers. His responsibility includes the global ownership for Receiving & Inspection as well as the general testing and method deployment-strategy in the company.

## Date

Wednesday, 19 May 2021, 9.00 – 18.00

(Registration and coffee 8.30 – 9.00)

Thursday, 20 May 2021, 9.00 – 18.00

Friday, 21 May 2020, 9.00 – 13.30

## Venue

HYPERION Hotel Berlin

Prager Straße 12

10779 Berlin, Germany

Phone +49 (0)30 236250-0

hyperion.berlin@h-hotels.com

## Fees (per delegate, plus VAT)

ECA Members € 1,790

APIC Members € 1,890

Non-ECA Members € 1,990

EU GMP Inspectorates € 995

The conference fee is payable in advance after receipt of invoice and includes conference documentation, social event on the first day, lunch on the first and second day, business lunch on the third day and all refreshments. VAT is reclaimable.

## Accommodation

CONCEPT HEIDELBERG has reserved a limited number of rooms in the conference hotel. You will receive a room reservation form/POG when you have registered for the conference. Reservation should be made directly with the hotel. Early reservation is recommended.

## Registration

Via the attached reservation form, by e-mail or by fax message. Or you register online at [www.gmp-compliance.org](http://www.gmp-compliance.org).

## Social Event



In the evening of the first day, you are cordially invited to a social event. This is an excellent opportunity to share your experiences with colleagues from other companies in a relaxed atmosphere.

## Conference language

The official conference language will be English.

## Organisation and Contact

ECA has entrusted Concept Heidelberg with the organisation of this event.

CONCEPT HEIDELBERG

P.O.Box 10 17 64

69007 Heidelberg, Germany

Phone +49(0)62 21/84 44-0

Fax +49(0)62 21/84 44 34

info@concept-heidelberg.de

www.concept-heidelberg.de

For questions regarding content please contact:

Dr Markus Funk (Operations Director) at

+49(0)62 21/84 44 40, or at [funk@concept-heidelberg.de](mailto:funk@concept-heidelberg.de).

For questions regarding reservation, hotel, organisation etc. please contact:

Ms Sonja Geppert (Organisation Manager) at

+49(0)62 21/84 44 16, or at [geppert@concept-heidelberg.de](mailto:geppert@concept-heidelberg.de).

## GMP/GDP Certification Programme

This seminar is recognised within the GMP Certification Programme. By attending selected seminars, the participant can acquire an additional certificate. We offer the following modules:

ECA Certified Validation Manager

ECA Certified QA Manager

ECA Certified API Production Manager

ECA Certified Quality Control Manager

ECA Certified Technical Operations Manager

ECA Certified Computer Validation Manager

ECA Certified Regulatory Affairs Manager

ECA Certified Microbiological Laboratory Manager

ECA Certified Sterile Production Manager

ECA Certified Biotech Manager

ECA Certified Pharmaceutical Development Manager

ECA Certified GMP Auditor

ECA Certified GDP Compliance Manager

ECA Certified Packaging Manager

ECA Certified Data Integrity Manager



On the internet at [www.gmp-compliance.org](http://www.gmp-compliance.org) you will find a text explaining which seminars are recognised for which certificates.

Or you send an e-mail to [info@gmp-compliance.org](mailto:info@gmp-compliance.org) or a fax to +49-(0)6221- 84 44 64 with the request for information about the GMP Certification Programme. We will then send you our brochure on the topic.

## Lufthansa is Mobility Partner for all ECA Events

As an ECA course or conference attendee, you will receive up to 20% discounted travel fares (according to availability). And as Lufthansa German Airlines offers a comprehensive global route network linking major cities around the world you will most likely be able to benefit from these special prices and conditions.

And this is how it works: Once you registered for a course or conference you will receive a link together with your registration confirmation. Opening that link will take you to the Mobility Partner Program website where you can enter a code in the "Access to Event Booking" area you will also receive. This will take you into an online booking platform\* that will automatically calculate the discount offered or provide you with an even better offer if another promotional fare is available.

We look forward to welcoming at one of our next events – and we already wish you a pleasant flight!

\*Please note: You may have to enable pop-ups on the Mobility Partner Program website – other-wise the booking platform window will not open.

If the bill-to-address deviates from the specifications on the right, please fill out here:

---

---

---

---

CONCEPT HEIDELBERG  
P.O. Box 101764  
Fax +49 (0) 62 21/84 44 34

D-69007 Heidelberg  
GERMANY

### Reservation Form (Please complete in full)

EU GMP-/FDA-compliant Sampling, 19 – 21 May 2021, Berlin, Germany

Title, first name, surname

Department

Company

Important: Please indicate your company's VAT ID Number

Purchase Order Number, if applicable

City

ZIP Code

Country

Phone / Fax

E-Mail (Please fill in)

#### General terms and conditions

- If you cannot attend the conference you have two options:
  - 1. We are happy to welcome a substitute colleague at any time.
  - 2. If you have to cancel entirely we must charge the following processing fees:
    - Cancellation until 2 weeks prior to the conference 10 %
    - Cancellation until 1 week prior to the conference 50 %
    - Cancellation within 1 week prior to the conference 100 %
- CONCEPT HEIDELBERG reserves the right to change the materials, instructors,

or speakers without notice or to cancel an event if the event must be cancelled, registrants will be notified as soon as possible and will receive a full refund of fees paid. CONCEPT HEIDELBERG will not be responsible for discount airfare penalties or other costs incurred due to a cancellation.

Terms of payment: Payable without deductions within 10 days after receipt of invoice.

Important: This is a binding registration and above fees are due in case of can-

cellation or non-appearance. If you cannot take part, you have to inform us in writing. The cancellation fee will then be calculated according to the point of time at which we receive your message.

In case you do not appear at the event without having informed us, you will have to pay the full registration fee, even if you have not made the payment yet. Only after we have received your payment, you are entitled to participate in the conference (receipt of payment will not be confirmed). (As of January 2012). German law shall apply. Court of jurisdiction is Heidelberg.

Privacy Policy: By registering for this event, I accept the processing of my Personal Data. Concept Heidelberg will use my data for the processing of this order, for which I hereby declare to agree that my personal data is stored and processed. Concept Heidelberg will only send me information in relation with this order or similar ones. My personal data will not be disclosed to third parties (see also the privacy policy at [http://www.gmp-compliance.org/eca\\_privacy.html](http://www.gmp-compliance.org/eca_privacy.html)). I note that I can ask for the modification, correction or deletion of my data at any time via the contact form on this website.